

## **REMARKS**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the reasons that follow.

Claims 4 and 5 are being cancelled without prejudice or disclaimer. Claims 1-3, 8 and 12 are currently being amended. Support for the added limitations to claim 1 can be found at least in claims 4 and 5, which have been cancelled. Claims 9-11 have been withdrawn from consideration.

Of the claims under consideration, claims 1-3, 6-8 and 12 are now pending in this application.

### **Rejections under 35 U.S.C. § 112, first paragraph**

Claim 8 stands rejected under 35 U.S.C. § 112, first paragraph. Specifically the Office Action stated that there “is no ‘description support’ for the recitation of ‘a difference in concentration of said compound between the surface section and the intersection of said catalytic layer is larger than 10%.” Claim 8 has been amended to change the phrase “larger than 10%” to “within a range of  $\pm 10\%$ .” Support for this amendment can be found at least in original claim 8. Applicants submit that claim 8, as amended, is fully supported by the original specification and claims.

### **Rejections under 35 U.S.C. § 112, second paragraph**

Claims 1-7 and 12 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically the Office Action stated “It is indefinite as to whether ‘content’ is tantamount to ‘concentration’, or whether it literally means ‘content’, since it is clear from page 9, lines 12-21 of the original specification that ‘concentration’ is what is intended.” Applicants have amended the claims to replace “content” with “concentration” thus overcoming the rejection under 35 U.S.C. § 112, second paragraph.

### **Rejections under 35 U.S.C. §§ 102 and 103**

Claim 8 stands rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent Publication No. US 2003/0021745 A1 to Chen (hereafter “Chen ‘745”). Claims 1-7 and 12 stand rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as

obvious over Ihara et al. (hereafter “Ihara ‘320”). Claims 1-8 and 12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,518,213 to Yamamoto et al. (hereafter “Yamamoto ‘213”). Applicants respectfully traverse these rejections for at least the following reasons.

***Independent claim 1***

Independent claim 1 was rejected over Ihara ‘320 or Yamamoto ‘213. Applicants submit that neither of these references suggests all the features of independent claim 1.

Ihara ‘320 does not suggest all the features of claim 1. Claim 1 has been amended to clarify that the concentration of the compound of the at least one metal in said second catalytic layer is larger than that in the first catalytic layer (where the at least one metal is selected from the group consisting of alkali metal, alkaline earth metal and rare earth metal). Ihara ‘320 fails to suggest at least this feature of claim 1. The Office Action states with respect to Ihara ‘320, that this reference:

could arbitrarily be considered to constitute two “layers” wherein the second layer is thicker than the first layer, such that the second layer would have a greater content of the compound of the at least one metal than would the first layer, even given a uniform concentration of the compound throughout the entire catalyst of [Ihara ‘320].

Applicants submit that in light of the amendment to claim 1 to clarify that the concentration of the compound of the at least one metal in said second catalytic layer is larger than that in the first catalytic layer, any uniform concentration of the at least one metal in Ihara ‘320 would not meet the limitations of the claim.

Yamamoto ‘213 also fails to suggest all the features of claim 1. Independent claim 1 has been amended to include the limitations: (1) “wherein a concentration of the at least one noble metal in said first and second catalytic layers is within a range of from 1.5 to 3.0 g per liter of said monolithic substrate” and (2) “wherein the concentration of the compound in said first and second catalytic layers is within a range of from 1 to 50 g per liter of the monolithic substrate, the concentration being calculated as oxide.” Yamamoto ‘213 fails to suggest these combined features of claim 1, or their attendant advantages.

Features (1) and (2) provide the following advantages. With respect to feature (1), the specification discloses in the paragraph beginning at page 10, line 29, that for the recited

range of noble metal(s), adsorption and release of SO<sub>x</sub> is effectively accomplished with only a small amount of noble metal. As also disclosed, excessive thermal deterioration may occur for a concentration of noble metal below this range, and for a concentration of noble metal above this range, SO<sub>x</sub> beyond a necessary level may adsorbed. With respect to feature (2), the specification discloses in the paragraph beginning at page 9, line 12, that the adsorption effect may not be sufficiently obtained for a concentration below this range.

Yamamoto '213, failing to disclose the combination of features (1) and (2), also fails to suggest the advantages resulting therefrom.

***Independent claim 8***

Independent claim 8 was rejected over Chen '745 or Yamamoto '213. Claim 8 requires that difference in concentration of the compound (of at least one metal selected from the group consisting of alkali metal, alkaline earth metal and rare earth metal) between the surface section and the inner section of the catalytic layer is within a range of  $\pm 10\%$ . Applicants submit that neither of these references suggests this feature of independent claim 8.

While Chen '745 and Yamamoto '213 may disclose catalyst material including a compound including alkali metal, alkaline earth metal or rare earth metal, Chen '745 and Yamamoto '213 do not disclose the non-uniformity of such a compound within their catalyst. Thus, in contrast to claim 1, these references fail to disclose that a difference in concentration of a compound (of at least one metal selected from the group consisting of alkali metal, alkaline earth metal and rare earth metal) between a surface section and an inner section of the catalytic layer is within a range of  $\pm 10\%$ . Moreover, the claimed non-uniformity of the compound would not be inherent.

Moreover, Chen '745 is not prior art to claim 8 of the present application. The present application claims foreign priority to Japanese application 2000-341458, filed on November 9, 2000, **prior** to the filing date of Chen '745 of April 13, 2001. Claim 8 has been amended to change the phrase "larger than 10%" to "within a range of  $\pm 10\%$ .", and thus claim 8 is now fully supported by the disclosure of Japanese application 2000-341458. Applicants have submitted a certified English translation of Japanese application 2000-341458 on January 22, 2004, perfecting their right to priority. Thus, Chen '745 is not prior art to claim 8 of the

present application, and applicants respectfully request that the rejection based on Chen '745 be withdrawn.

Further, if Yamamoto '213 does not anticipate claim 8, it is not prior art for the purposes of rejecting claim 8, because Yamamoto '213 is not prior art to the present application for the purposes of 35 U.S.C. § 103. Yamamoto et al. '213 is available as prior art only under 35 U.S.C. § 102(e). Because both the present application and Yamamoto '213 were owned by Nissan Motor Co., Ltd at the time the invention of the present application was made, Yamamoto '213 is not available as prior art for the purposes of 35 U.S.C. § 103 (See 35 U.S.C. § 103(c)).

**Obviousness-type double patenting**

Claims 1-8 and 12 are provisionally rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1-4 of copending application serial No. 10/315,058 ("the '058 application"). Applicants respectfully request that this rejection be held in abeyance until one of the '058 application and the present application is allowed, at which time applicants will file a terminal disclaimer in the application which is not allowed with respect to the allowed application, if a terminal disclaimer is warranted.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

July 19, 2004

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